

DISCUSSION OF THE AMENDMENT

The specification has been amended by changing nomenclature inadvertently omitted when such change was made in the amendment filed June 13, 2002. The naming of element groups in the Periodic Table of the Elements is intended to follow the CAS system.

Claims 1 and 89 have each been amended by replacing the term "containing" with the synonymous --comprising--. In addition, the Group VIB metal has been limited to W, and the Group IVA metal has been limited to Ge and Pb. Claim 31 has been amended by replacing the term "coat" with the term --coating--. Claims 40 and 51 have been amended to correct typographical errors. Claim 89 has been additionally amended by limiting the member to  $\text{Cu}^{2+}$ . Finally, Claims 6 and 7 have been cancelled.

No new matter has been added by the above amendment. Claims 1, 8-24, 26, 27, 31-40, 42-51, and 89 are now pending in this application.

REMARKS

The rejections

under 35 U.S.C. § 102(e) of Claims 1, 6-11, 13, 22, 42, 43 and 50 as anticipated by U.S. 6,232,034 (Kasai et al);

and under 35 U.S.C. § 103(a) of:

Claims 12, 23, 47 and 89 over Kasai et al;

Claims 14-21, 35-40, and 44-46 over Kasai et al in view of U.S. 6,318,264 (D'Heureuse et al); and

Claims 24, 26, 27, 31-34, 48, 49 and 51 over Kasai et al in view of U.S. 5,713,287 (Gelbart),

are all respectfully traversed.

The present invention relates to a printing plate material and to a method for preparation and renewal thereof. As discussed below, it is respectfully submitted that the applied prior art does not render the presently-claimed invention unpatentable, for reasons now discussed.

Kasai et al discloses a lithographic printing plate precursor for ultraviolet ray exposure comprising a support having provided thereon a light-sensitive layer containing fine anatase-type titanium oxide grains and a particular siloxane resin, wherein the layer may contain other metallic elements or oxides thereof, as listed (column 4, lines 54-65). However, Kasai et al neither discloses nor suggests any of the metals and/or oxides thereof recited in the present claims.

Neither D'Heureuse et al nor Gelbart remedy the above-discussed deficiencies in Kasai et al, since neither reference discloses or suggests the combination of a titanium oxide photocatalyst and the at least one metal and/or oxide thereof required by the present claims.

With regard to the rejection of Claim 89, **submitted herewith** is a certified English translation of priority application JP11-029362, filed February 5, 1999. Applicants respectfully request that the Examiner find that Claim 89 is entitled to this foreign priority date under 35 U.S.C. § 119. Also **submitted herewith** is a certified English translation of priority application JP11-090146, filed March 30, 1999. In addition, **submitted herewith** are the first page of each of the English translations of the priority applications, with a handwritten notation to distinguish one from the other.

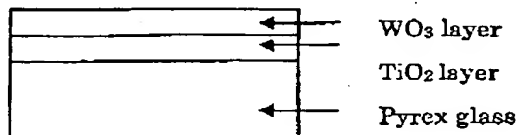
For all the above reasons, it is respectfully requested that the rejections over prior art be withdrawn.

**Submitted herewith** is an Information Disclosure Statement (IDS) containing *Photoinduced hydrophilic conversion of TiO<sub>2</sub>/WO<sub>3</sub> layered thin films*, from Sixth Symposium, "Recent development of photocatalytic reactions" (November 26, 1999) (Miyauchi et al) (both the Japanese original and the English translation), and *Titanium dioxide photocatalysis*, Journal of Photochemistry and Photobiology C: Photochemistry Reviews 1 (2000) 1-21 (Fujishima et al). (Note that Fujishima et al is indicated as having been "accepted 10 March 2000" which date is after the international filing date, and thus the effective U.S. filing date herein, of February 7, 2000.

Miyauchi et al, although drawn to the combination of TiO<sub>2</sub> and WO<sub>3</sub>, does not render unpatentable claims herein that recite W or oxides thereof. The following is based on the disclosure in Miyauchi et al.

As shown in [Experiments], a TiO<sub>2</sub> film was formed on a Pyrex glass. Then a solution, in which tungstic acid was dissolved in aqueous ammonia, was coated thereon and

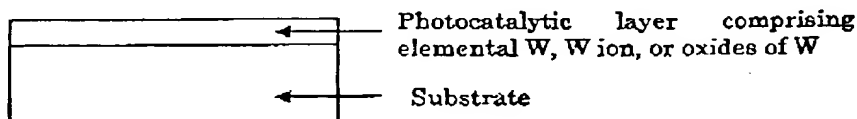
this was then baked. Thereby, a  $\text{TiO}_2/\text{WO}_3$  layered thin film was produced. In other words, the  $\text{TiO}_2/\text{WO}_3$  layered thin film produced has the following layer structure:



In [Results and Consideration], it is stated that XRD analysis indicates that  $\text{TiO}_2$  and  $\text{WO}_3$  were respectively and separately presented in the anatase type [ $\text{TiO}_2$  crystal structure] and the  $\text{ReO}_3$  type [ $\text{WO}_3$  crystal structure].

In addition, it is stated that when  $\text{WO}_3$  is layered on the surface of  $\text{TiO}_2$ , oxidation and decomposition ability was less in the  $\text{TiO}_2/\text{WO}_3$  layered thin film than in  $\text{TiO}_2$  itself.

In contrast, the present invention has the following structure.



That is, the present invention comprises one layer that comprises W and photocatalyst. In addition, W is incorporated in the crystal structure of the photocatalyst in the layer. Therefore, W does not comprise a different crystal phase from the crystal phase of the photocatalyst.

In the present invention, the ability to oxidize and decompose organic substances is improved by adding W to the photocatalytic layer. In addition, as disclosed in the specification, third embodiment, in particular, page 59, last paragraph, to page 60, second paragraph, a group VIB metal, such as W, or an oxide thereof, is effective in exertion of a sensitizing effect. The speed in which hydrophobicity of the coat layer is changed to

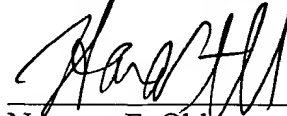
hydrophilicity, when W is added to a coat layer, is improved. As a result, the time for image writing can be reduced. In addition, in the present invention, in an initial state of the printing plate material as prepared, the surface of the coat layer is adjusted to be hydrophobic, and in order to so prepare said surface, the coating layer comprises a compound that can be decomposed by irradiation of the surface of the coat layer with ultraviolet rays, which is then dried, as disclosed in the specification at page 46, last paragraph, to page 47, first paragraph. Furthermore, the compounds, which can be decomposed by irradiation of the surface of the coating layer with ultraviolet rays, are exemplified at page 47, second paragraph, to page 48, first paragraph. These compounds are organic compounds.

For all the above reasons, it is respectfully submitted that no rejection should be made over Miyauchi et al.

All of the presently pending claims in this application are now believed to be in immediate condition for allowance. Accordingly, the Examiner is respectfully requested to pass this application to issue.

Respectfully submitted,

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